



Pre-registration diploma student nurse stress and coping measures

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KEYWORDS

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Clinical;
Coping

Summary The aim of this study is to examine the stress experiences and coping abilities of student nurses. A survey design was employed to examine the stress experiences of Diploma student nurses in a large Dublin Teaching Hospital. A questionnaire was utilized that measured and explored five specific constructs pertinent to student nurse stress. These included clinical stress, academic stress, coping, emotions and personal factors which assist students nurses during periods of stress. Findings showed that examinations, the level and intensity of academic workload, the theory–practice gap and poor relationships with clinical staff were the leading stressors identified. Emotional reactions to stress included feeling exhausted and upset under pressure. Students adopted short-term emotion focused coping strategies when attempting to deal with stress. A sense of achievement, and determination, were personal factors, which assisted students to continue in the event of stress being present. Content analysis of the open questions shed further light in relation to the stress phenomenon, particularly in relation to clinical stress. The provision of adequate support services from a clinical and academic perspective, a lecture–practitioner model of education delivery, and curriculum changes which focus on developing student self awareness skills are the suggested study recommendations.

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Introduction

Throughout the last decade nurse education in the Republic of Ireland has undergone tremendous change. It is presently facing its greatest challenge to date, with the implementation of a four-year degree programme (Timmins and Kaliszer, 2002).

There is an onus on all practitioners, including educationalists, constantly to review and examine current practice in order to accomplish and strive for quality goals. During this radical period in nurse education, there is an urgent need for education-ists to address issues such as student stress, which can disrupt physiological and psychological health (Sarafino, 1998). Furthermore, it is necessary to identify whether students are equipped sufficiently with effective coping skills to deal with future clinical stress.

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It is well recognised that Diploma nurse education produces stress (Hamill, 1995; Lindop, 1999) which can also adversely affect the quality of nursing care (Beck and Srivastava, 1991). Although student nurses are to a greater extent regarded as supernumerary, they do participate in extensive hands-on patient care (Holland, 2002). However, student nurses are currently juggling several roles, which demand a high level of commitment and competence. Much recent research has been replete with suggestions as to how nurse educators might reduce student nurse stress and enable them subsequently to cope more effectively (Sawatzky, 1998; Jones and Johnston, 2000). From an Irish perspective there has only been a scant, anecdotal acknowledgment of the issues pertaining to student stress within the literature.

The study endeavoured to isolate unwanted stress and ultimately to develop curriculum structures which will optimise the educational experience of student nurses from an academic and clinical perspective.

Background

Stress has been identified as the 20th century disease (Bailey, 1980). Previous research has been criticised for failing to clarify its underlying theoretical conceptualisation and definition (Wheeler, 1997). There are three models of stress identified in the literature; the Stimulus Model, the Response Model and the Transactional Model (Bailey and Clarke, 1989).

In the Transactional Model of Stress, stress is viewed as a complex and dynamic transaction between individuals and their environments (Cox, 1978). Appraisal by any individual is necessary to ascertain what steps are required following exposure to stress (Lazarus, 1966). The constructs motivation, appraisal, coping, stress, and emotions are co-joined in nature and should only be separated for the purpose of analysis and discourse (Lazarus, 1999). This reflects a more global appreciation of the stress phenomenon by which other variables also require necessary scrutiny. Lindop's (1999) questionnaire captures Lazarus's (1966) transactional approach to stress.

An increase in the examination of the stress phenomenon from a nursing perspective has led to various measurements being developed. These include the Beck and Srivastava Stress Inventory, the General Health Questionnaire, and the Nursing Stress Scale.

Student nurse stress

While some stress is motivating, too high a level interferes with learning (Gaberson and Oermann, 1999). As a consequence of nurses shedding the apprenticeship model of learning and in line with any academic programme, students are required to achieve higher academic attainment than had previously been the case (Browne and Edelman, 2000). There has been an emotional and psychological cost as a result of this change, which has led to a rise in student nurse stress (Lindop, 1999). Furthermore, many of the stressors identified in earlier studies of nurse education correspond with the stressors nursing students experience today (Sawatzky, 1998). Arising from the literature the following sections examine variables that may contribute to student nurse stress.

Academic stress

Academic workload, examinations, and assignments are all sources of stress for student nurses (Beck and Srivastava, 1991; Hamill, 1995; Lindop, 1999). In a recent Irish study, Timmins and Kaliszer (2002) focused on measuring various stressors and found that examinations, theory, assignments, workload and classroom hours were all significant stressors. Furthermore, Ofori (2000) found that academic work provokes a greater challenge to younger student nurses owing possibly to their limited coping ability. Other variables which may be in greater abundance by older, more mature students include motivation (Richardson, 1995), and assertiveness (Browne, 1993).

Clinical placement stress

Excessive responsibility was found to be stressful for students while in practice. (Ganga, 1996; Sawatzky, 1998). However, more recent studies (Lindop, 1999; Browne and Edelman, 2000) in which supernumerary status was incorporated during the education of students, excessive responsibility was not found to produce stress. Glackin and Glackin (1998) conclude that the maturity of older students assist students in the clinical area when they are engaged in clinical practice.

The theory–practice gap, a disparity between educational emphasis and the reality of clinical practice remains a source of stress also for students (Lindop, 1999). Drennan (2001) however concluded from an Irish perspective, that the

innovative role of the Clinical Placement Co-ordinator (CPC) was integral in assisting students relate theory to overall practice and easing their anxieties while on clinical placement. The CPC role was created to support students, and to coordinate and assist the Nurse Tutors, Ward Sister, and Staff Nurses in relation to student clinical placements (Department of Health, 1997).

Non-integration

If the relationship between the preceptor and student is less than successful, student learning will possibly be inhibited (Yonge et al., 2002). Hamill (1995) used a Grounded Theory approach and highlighted that student nurses move along a dependence-independence continuum, which can be affected by staff nurses' negative attitudes to students and a possible misunderstanding of their course. Lindop (1989) noted that 60% of single reasons why student nurses had left during their training were related to negative attitudes from staff. In support of these findings Randle (2001) concluded that staff nurses as a group were extremely influential in relation to influencing student nurses self esteem.

Emotional stress

Recurrent evidence from research has highlighted that the death of a patient is both an anticipated and perceived cause of anxiety for the student nurse (Knight and Field, 1981; Parkes, 1985; Clarke and Ruffin, 1992; Rhead, 1995). Caring for children in general causes an increase in stress for student nurses (Oermann and Standfest, 1997) and the death of a child is also a significantly stressful event (Scullion, 1994).

Lindop (1999) found that students experience stress when the emotional needs of patients are disregarded. Randle (2001) also found that nurses might be using their position in the health care hierarchy to oppress patients.

From a student's own perspective Maslach et al. (1996) postulate that emotional exhaustion is one variable that is directly related to burnout which itself is a direct consequence of stress. Furthermore, Lindop (1989) identified an array of emotions which students' experience during periods of stress including; exhaustion, pressure, and upset. Stewart et al. (2001) noted that some emotional factors such as 'fear' and 'shyness', were factors, which may inhibit younger students from seeking learning support.

Financial stress

Finance is a significant stressor for student nurses (Jones and Johnston, 1997; Timmins and Kaliszer, 2002). Whyley (1996) concluded that it is a financial commitment now to undertake nurse training and three out of four students are in debt.

Coping

The introduction of new academic training also necessitates a re-examination of the coping strategies used by student nurses (Jones and Johnston, 1997). Lazarus and Folkman (1984) define coping as:

Constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus and Folkman, 1984, p141).

Within the Transactional Model of Stress, coping is a fundamental element and is deeply grounded within the appraisal process. Coping efforts are either directed towards ameliorating a threat (problem-focused coping) or decreasing negatively toned emotions (emotion focused coping). Direct coping involves the use of rational problem orientated strategies to change or manage the situation, and avoidance of emotionally based items such as fantasy, wishful thinking and hostility (Jones and Johnston, 1997).

Bray et al. (1999) found that the way students respond to stress can impact on their social integration and affect growth and development. Hamill (1995) also conjectured that student nurses who actively participate and do something about the stress they experience in the clinical area (problem focused coping measures) adopt a more successful coping strategy. On the other hand, Lindop (1999) concluded that student nurses had minimum skills associated with coping with clinical stress. They relied predominantly on talking to relatives and friends and trying to remain calm when exposed to stress. Kim et al. (1997) highlighted some disparities in the coping efforts of Chinese, Japanese and Korean college students, thereby concluding that culture possibly influences the type of coping utilized by student nurses.

Hardiness

Hardiness has emerged as a positive mediating variable that possibly influences stress reactions and coping ability (Antai-Ontong, 2002). Hardy persons are easily committed to what they are

doing in their lives, and believe they have some control over the causes and solutions of life problems (Florian et al., 1995) Kaposá et al. (1982) concluded that hardiness is associated with the tendency to perceive potential stressful events in less threatening terms. Fisherman (1987) highlighted that hardiness as a concept can be taught to students. Lindop (1999) found that there is a constellation of determined feelings and behaviours, which are labelled 'determination'. This has similarities to the variable 'hardiness' which has a similar type positive affect when exposed to stress.

It is clear from the literature that variables such as coping, personal attributes and the type of stress all influence outcomes in relation to student nurse stress. The majority of research that examines student nurse stress is undertaken within the United Kingdom and America. Historic changes presently abound in relation to undergraduate student nurse education in Ireland. A unique opportunity exists therefore to examine the nature of stress experienced by Diploma student nurses in Ireland owing to the minimal quality of research undertaken in relation to this area in the past. It is necessary however to examine stress from a wider perspective and also focus on coping, personality and emotions as they all have a significant influence on ones reaction to stress.

Methodology

Research questions were formulated following review of the literature. These questions are detailed below:

- What specific types of clinical and educational stress are student nurses exposed to?
- What are the specific coping strategies student nurses employ when exposed to stress?
- What emotions do student nurses experience when exposed to stress?
- What personality factors help student nurses to carry on during periods of stress?

Clinical stress relates to any stress that arises within the clinical setting? Educational stress relates to any stress, which originates when a student nurse is involved in any academic work.

A survey aimed at measuring specific constructs, (clinical/academic stress, coping, emotions and personality factors) was employed to provide a more holistic perspective in relation to interpreting student nurse stress. The target population for this

study was student nurses undertaking the Diploma in Nursing Studies (3 years) in the Republic of Ireland. A group of 52 third year Diploma student nurses from a Dublin teaching hospital were selected owing to their accessibility. Convenience sampling was the sampling method used. This sampling approach utilizes persons or objects who are readily accessible (LoBiondo-Wood and Haber, 1994). In the sample there were five (9.6%) male student nurses and forty-seven (90.4%) female student nurses. Forty two (80.8%) were between the ages 17–25, nine (17.3%) were between the ages 26–37, one (1.9%) student was between the ages 38–45 and there were no students in the age bracket 46–56.

The data collection tool chosen for this study was a self-reported 109-item questionnaire with a Likert scale designed by Mr. Edward Lindop, which was utilized in previous studies (Lindop, 1989, 1999). The questionnaire had 6 sections, comprising the following headings; Clinical stress, Academic stress, Emotional response to stress, Coping, Personal factors which help one carry on and Demographic details. The original questionnaire also included an open question in each section, which gave the students an opportunity to respond freely to issues in relation to stress from their own personal perspective. The validity and reliability of the questionnaire had been clearly demonstrated by Lindop during previous studies (Lindop, 1989, 1999).

A pilot study was undertaken to ascertain any difficulties with interpretation of the questionnaire at a local level. Six First Year student nurses within the school volunteered. Some minor alterations regarding spacing were undertaken to the questionnaire subsequently.

A research proposal was submitted accompanied with a cover letter to the Research Access Committee in the Teaching Hospital. Permission was thus granted to access the students to collect the data for the study. Ethical approval to undertake the study was also granted from the Research Ethics Committee in the hospital.

Informed consent to collect the data was obtained verbally from the third year Diploma students. Assurances of confidentiality and anonymity of subjects and the hospital involved were given. It was emphasized to the students that the information obtained would be used for the purposes of the study and questionnaires would be destroyed upon completion of the study. They were also reminded not to share information while completing the questionnaire and to respond to statements in terms of which most closely corresponds with their viewpoint. Students were also encouraged to ask for clarification if necessary. A response rate of 100% was achieved ($n = 52$).

Quantitative analysis of the Likert items in the questionnaire was undertaken utilising the Statistical Package for the Social Sciences (SPSS) 11.0. Data was analysed incorporating descriptive and inferential statistics. Content analysis of the narrative material from the open questionnaires was embarked upon and reduced into themes, partially guided by Sim and Wright's (2001) analysis approach.

Results

The Likert stress questionnaire contained a five-point scale with one indicating strong disagreement, two indicating disagreement, three indicating don't know, four indicating agreement and five indicating strong agreement. The coefficient alpha of internal consistency for the questionnaire was 0.94, which indicated significant reliability. For analysis purpose, the one student in the 38–45-age category was eliminated. All constructs; clinical stress, academic stress, emotional responses to stress, coping and personal factors which assist students to carry on were t tested with age and only significant results are reported. This parametric test was incorporated to compare the mean construct scores of the two sample groups (17–25, 26–37).

Stress experiences in the educational environment

When comparing the mean scores from each questionnaire item in this section the predominant stress with origins in the educational environment included:

1. examinations;
2. the intense amount of work;

3. finding the academic work difficult;
4. being faced with study.

The mean (ranked) and standard deviation scores of each item within this section are listed in Table 1 in order of highest mean score.

Content analysis of the material from the open question in this section highlighted two specific themes which provoke stress; examinations and workload. Student comments included "extreme stress worry and anxiety in the classroom due to short blocks with a huge content that is examinable" and "Tutor pressure to do well". Six students (11%) overall commented in this section.

Stress experiences in the clinical environment

The predominant clinical stress factors found were:

1. Conflict between the ideal practice taught in the school and the real situation on the ward.
2. The unfriendly atmosphere on the ward or the aloof attitude of more senior staff.
3. Being reprimanded in front of staff and patients.

The mean (ranked) and standard deviation score for each item in this section of the questionnaire are highlighted in Table 2.

Over 30% of students who completed the open question in this section of the questionnaire noted that staff nurses through their interaction or lack of it at times, lead to student nurse stress. The stress experienced was specifically focused on three themes; Staff-nurse interactions, lack of educational involvement, and conflict in understanding the staff–student educational role. Example of student comments in relation to these themes included;

Table 1 Educational stress variables, mean scores and standard deviation

Educational stress	Mean	Standard deviation
Examinations	4.60	0.77
Stress – the intense amount of work	4.40	0.75
Finding the academic work difficult	3.98	0.98
Being faced with study	3.75	1.22
Too much unnecessary work	3.46	1.28
Dissatisfaction with my own performance	3.44	1.14
Possible disciplinary procedures	3.12	1.32
Unrealistic expectations of my own performance	3.08	1.10
Feeling of inferiority compared with others in the group	2.94	1.35
A personality clash with a tutor	2.69	1.26
No situation in the clinical causes stress	1.38	0.60

Higher mean scores indicate increased stress.

Table 2 Clinical stress variables, mean scores and standard deviation

	Mean	Standard deviation
Conflict between the ideal practice taught in the school and the real situation on the ward	3.90	1.14
The unfriendly atmosphere on the ward or the aloof attitude of more senior staff	3.88	1.10
Being reprimanded in front of staff and patients	3.88	1.22
Being left for short periods on the ward without trained nurses being present	3.79	1.13
Lack of communication and information given to patients	3.60	1.09
Uncaring attitudes of nurses towards their patients	3.54	1.11
Death and dying	3.52	1.16
Pressure of time when performing nursing duties	3.52	1.18
Disregard shown for the emotional needs of patients	3.46	1.09
Lack of teaching and interest in learners	3.42	1.14
The rigid atmosphere and not being able to use my initiative	3.38	1.17
Too much responsibility without adequate supervision	3.23	1.13
Feeling useless and unable to contribute towards the nursing team effort	3.21	1.30
Guilt feelings resulting from sitting writing the Kardex while others worked	2.90	1.35
Worrying about things when off duty	2.83	1.22
Always catching colds and feeling run-down	2.81	1.33
Perceiving training as being too long	2.67	1.17
Physical hard work	2.63	1.33
Too much identification and personal involvement with the patients predicament	2.60	1.00
Repugnant tasks	2.19	1.12
No clinical experience has caused stress	1.27	0.66

Higher mean scores indicate increased stress.

- "Nurses trying to be superior for what? Nurses have a habit of making students feel inadequate".
- "Unwillingness of staff members to educate and include the students in the overall care of the patient".
- "I think that staff on the ward don't even consider us supernumerary, if you want to read an educational folder and a bell rings and you don't go running they think your useless and they could be sitting and chatting".

Emotional response to stress

There were 42 different items listed as emotions in this section of the questionnaire. The emotions that scored a high mean included; exhausted, under pressure, upset, worrying about what might happen, rundown, frustrated and worried.

When the construct 'emotional responses to stress' was *t* tested with age there were significant differences between age groups (see Table 3).

Coping

The following were the most common methods of coping with stress, following review of the mean scores of each coping intervention.

1. Talking to relatives and friends.
2. Talking to peers.
3. Just keep thinking I want to carry on.
4. Trying to stay out of trouble.

The mean (ranked) and standard deviation score for each item in this section of the questionnaire are highlighted in Table 4. The students did not document any issues in the open-ended question within this section of the questionnaire.

Table 3 *t*-test age groups and construct 'emotional responses to stress' ($p < 0.05$)

Construct	Mean result		<i>t</i> result	df	<i>P</i>	<i>n</i>
	17–25	26–37				
Emotion	125.58	104.12	2.61	49	0.012	51

Table 4 Coping variables mean scores and standard deviation

	Mean	Standard deviation
Talking to relatives or friends	4.33	0.71
Talking to peers	4.08	0.76
Just keep thinking I want to carry on	4.06	0.70
Trying to stay out of trouble	3.88	1.08
Trying to remain calm	3.83	1.02
Telling myself I am here for the patients	3.75	1.05
Just keep thinking see how it goes	3.73	0.99
Trying to organize study	3.37	1.21
To just muddle through	3.27	1.22
Walking in the country	2.96	1.48
Talking to the tutor	2.87	1.30
Crying	2.69	1.50
Clean up at home-get out the Hoover	2.69	1.44
Praying	2.69	1.34
Going off sick	2.60	1.39
Listening to classical music	2.08	1.15
Going to yoga classes	2.06	1.06

Highest mean scores indicate most common coping measures.

Personal factors which helped student nurses carry on

When comparing the mean scores in this section of the questionnaire, the following were the most common personal factors, which helped respondents to carry on during periods of stress. 'A sense of achievement', 'determination', 'a desire to obtain a qualification', 'the need to finish something I had started', and 'being assertive and developing my own personality'.

Discussion

The predominant stress factors found in this study arising as result of academic activity, support the findings of Lindop's (1989, 1999) studies and also Timmins and Kaliszer (2002) Irish study findings. (i.e. examinations and the intense amount of academic work). A preoccupation with assessment may encourage students to be externally motivated, learning only because they are being assessed. This emphasis, essentially contradicts the present aspirations of molding students who will possess the skills of analysis, critical thinking, problem-solving and reflective practitioner (An Bord Altranais, 2000).

The highest stress reported in this study from a clinical perspective was in relation to the theory–practice gap. A possible concern at present from an Irish perspective as a result of the recent transfer of nurse education to the third level sector, which traditionally emphasises the acquisition

of a theoretical knowledge base, may be a further widening of the theory–practice gap. A joint appointment role for nurse educators or alternatively concrete daily/weekly timetable visitations by nurse educators would undoubtedly consolidate efforts to link what is taught in the class/room and what is practiced clinically. Other measures which may ease the stress caused by the theory practice gap, include

- adequate length of clinical placement;
- appropriate sequencing of theory with placement;
- effective liaison and partnership between the clinical and third level institution;
- protected reflective time for each student.
- expanding the role of the Clinical Placement Coordinators to include formal teaching within the clinical and classroom environment.

Evidence from this small study suggests that not all staff nurses may be fulfilling their professional responsibility in relation to the education of student nurses, and that student nurses may be finding it difficult to interact positively with staff. If the relationship between the preceptor and student is less than successful, student learning may be inhibited. Student nurses contribute significantly to patient care and therefore a concerted effort is warranted to protect them and more significantly the patient. However, inadequate staff preparations for their role and the pressure of service demands, intensified by low staffing, have undermined some

qualified practitioners ability to offer students satisfactory supervision.

'Feeling exhausted' and 'under pressure' were the two highest emotional responses to stress found in this study. It can be concluded therefore that students who are experiencing exhaustion are invariably displaying an integral symptom of burn-out (Maslach et al., 1996).

The younger (17–25) age groups emotional response to stress was noticeably greater than their counterparts (26–37). Previous caring experiences, is one explanation that might give greater confidence to older students, thereby affecting emotional responses to stress. One initiative to overcome this situation occurring is to implement teaching strategies in which students could be empowered to retain personal identity and self-awareness skills especially concentrating on younger age groups. This proposal is important given that the findings of this study indicate that approximately 45% of the students reported a low self-image, 54% noted a loss of confidence and 53% reported being a burden during stress encounters.

This study found that there was a predominant reliance by students on using emotion focused coping strategies when experiencing stress. Jones and Johnston (1997) identified that problem focused coping strategies were associated with lower levels of distress and fewer sources of stress. This may account for the emotional reactions of exhaustion and pressure that the students were encountering. The study findings indicate there was little evidence to suggest that students access professional support such as the Clinical Placement Coordinator, Lecturer or Ward manager during periods of stress.

The high level of agreement by students in relation to the personality factors which help them continue on their course is important and highlights that the ingredients of success in nursing courses are not solely academic or related to the ability to acquire nursing skills. Principally it may be related to a determination to carry on, despite the stress encountered throughout their studies (Lindop, 1999). Self-awareness and assertiveness skills are invaluable assets in advancing student nurse's professional and personnel development. Accordingly they are prominent within nurse education curricula. However direct and indirect educational methods of promoting personality traits such as determination and hardiness require more focus and attention within curricula if students are to possibly benefit from and overcome some of the clinical and academic challenges they continually face.

Limitations

The major limitation of this study was that it represented students in only one higher education establishment in the Republic of Ireland owing to the sampling technique chosen (i.e convenient sampling). The sample size ($n = 52$) unearths a further limitation. The results therefore need to be considered with caution as they are not generalisable. However although this was a relatively small-scale study it did highlight pertinent issues locally in relation to student nurse stress.

Conclusions

It is clear from the results of this study that these student nurses are exposed to a variety of stressors from academic and clinical perspectives, which is not unique when compared to the literature. The emotional consequences of stress are evident, with students in this study experiencing exhaustion and pressure. Nursing students are in a unique position academically and multiple demands are made on them. Curriculum developers need to be cognisant of this.

Nurse educators and curriculum planners in terms of making a positive contribution towards minimizing the stress student nurses experience could note the following recommendations in light of the findings:

These recommendations arise only from within the context of the current study and its location. However some may have resonance across the wider provision of nurse education.

- Produce assessment strategies, which are strategically planned.
- Ensure the effectiveness of a range of support services for students throughout programmes, which offer appropriate academic assistance and guidance
- All personnel involved with teaching nursing students including clinicians need to be adequately prepared to deal with students and be aware of their own impact on students (Timmins and Kalliszer, 2002).
- The nursing curriculum should be proactive in equipping student nurses with effective coping skills, which can be called upon in their future nursing careers.
- Implement teaching strategies whereby student nurses can be empowered to promote positive intrapersonal and interpersonal skills and retain personal identity and self-awareness skills.

- In an attempt to diminish the stress the theory practice gap causes for student nurses the introduction of a joint appointment role for nurse educators is a tangible proposal.

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